

**DUAL INPUT AC and DC POWER SUPPLY HAVING A  
PROGRAMMABLE DC OUTPUT UTILIZING A SECONDARY BUCK  
CONVERTER**

**5 CROSS REFERENCE TO RELATED APPLICATIONS**

*is a continuation of 10/072,074 filed 12/8/02 PAT. 6,700,808 and*  
The present application is related to and claims priority from commonly  
assigned U.S. Patent application Serial No. 10/005,961 filed December 3, 2001, *and claims benefit of*  
the *60/335,785 10/31/01*  
teachings of which are incorporated herein by reference.

**10 TECHNICAL FIELD**

The present invention generally relates to the field of power converters,  
and more particularly to a dual input AC and DC to programmable DC output  
power converter.

**BACKGROUND OF THE INVENTION**

**15** As the use of mobile electronic products, such as PC notebooks, PDAs ,  
cellular telephones and the like, continues to increase, the need for low cost,  
compact power supplies to power and recharge these products also continues to  
increase. Most manufacturers of mobile products typically include plug-in power  
adapters along with these mobile products to help facilitate the power supply  
**20** needs of their customers.

Today's power adapters are typically AC-to-DC, or DC-to-DC power  
converters which are configured to either step-up or step-down the DC voltage  
input delivered to the mobile device. With AC-to-DC adapters, for example, users  
can power most mobile devices by simply plugging the adapter into a simple AC  
**25** wall outlet commonly found in most homes or offices. Similarly, when only DC